

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

OFFICE ENGINEER

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*Flex your power!
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March 15, 2011

02-Sha-5-R19.0/R28.2

02-2E6504

Project ID 0200000591

ACIM-005-8(344)E

Addendum No. 1

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN SHASTA COUNTY IN AND NEAR REDDING AND SHASTA LAKE FROM CHURN CREEK BRIDGE TO 0.6 MILE NORTH OF BRIDGE BAY OVERCROSSING.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Wednesday, March 30, 2011.

This addendum is being issued to revise the Project Plans, the Notice to Bidders and Special Provisions, and the Bid book.

Project Plan Sheets 2, 3, 4, 5 and 13 are revised. Copies of the revised sheets are attached for substitution for the like-numbered sheets.

In the Special Provisions, Section 10-1.17, "RUBBERIZED HOT MIX ASPHALT (OPEN GRADED HIGH BINDER)," subsection "Asphalt Binder," the first paragraph is revised as follows:

"Asphalt binder mixed with asphalt modifier and crumb rubber modifier (CRM) for asphalt rubber binder must be PG64-16."

In the Special Provisions, Section 10-1.175, "HOT MIX ASPHALT," is added as attached.

In the Special Provisions, Section 10-1.26, "ASPHALTS," is added as attached.

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In the Bid book, in the "Bid Item List," Items 12 and 18 are revised, and Item 27 is added as attached.

To Bid book holders:

Replace the entire "Bid Item List" in the Bid book with the attached Bid Item List. The revised Bid Item List is to be used in the bid.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the Notice to Bidders section of the Notice to Bidders and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the Bid book.

Submit bids in the Bid book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This addendum and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/02/02-2E6504

If you are not a Bid book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,



JOHN BULINSKI
District Director

Attachments

10-1.175 HOT MIX ASPHALT

GENERAL

Summary

This work includes producing and placing hot mix asphalt (HMA) Type A using the Quality Control/Quality Assurance (QC/QA) process.

Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications.

Submittals

With the job mix formula (JMF) submittal, submit:

1. California Test 204 plasticity index results
2. California Test 371 tensile strength ratio results for treated and untreated HMA

On the first production day and when you sample during production of the first 5,000 tons thereafter, submit samples split from your HMA production sample for California Test 371 to the Engineer and the Transportation Laboratory, Attention: Moisture Test.

At JMF submittal, production start up and every 5,000 tons submit the California Test 371 test results to the Engineer and electronically to:

Moisture_Tests@dot.ca.gov

Data Cores

Three business days before starting coring, submit proposed methods and materials for backfilling data core holes. Submit to the Engineer and electronically to Coring@dot.ca.gov:

1. A summary of data cores taken
2. A photograph of each data core

For each data core, the summary must include:

1. Project identification number
2. Date cored
3. Core identification number
4. Type of materials recovered
5. Type and approximate thickness of unstabilized material not recovered
6. Total core thickness
7. Thickness of each individual material to within:

- 7.1 For recovered material, 1/2 inch
- 7.2 For unstabilized material, 1.0 inch

8. Location including:

- 8.1. County
- 8.2. Route
- 8.3. Post mile
- 8.4. Lane number
- 8.5. Lane direction
- 8.6. Station

Each data core digital photograph must include a ruler laid next to the data core. Each photograph must include:

1. The core
2. Project identification number
3. Core identification number
4. Date cored
5. County
6. Route
7. Post mile
8. Lane number
9. Lane direction

After data core summary and photograph submittal, dispose of cores under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Quality Control and Assurance

For the mix design, determine the plasticity index of the aggregate blend under California Test 204. If the plasticity index is greater than 10, do not use that aggregate blend.

If the results from California Test 371 show the minimum tensile strength ratio of the lime-treated HMA is less than 80, the Engineer rejects your JMF submittal.

On the first production day and at least every 5,000 tons, sample HMA and test under California Test 371.

The Department does not use California Test 371 test results for production to determine specification compliance.

Perform sampling and testing at the specified frequency and location for the following additional quality characteristics:

Minimum Quality Control

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Requirement	Location of Sampling	Minimum Reporting Time Allowance
Los Angeles Rattler (% max loss at 500 rev)	CT 211	1 per 3,000 tons during production but not less than 1 per paving day	25	Stockpile ^a	48 hours
Fine durability index (D _f) (min)	CT 229	1 per 3,000 tons during production but not less than 1 per paving day	50	Stockpile ^a	48 hours

Note:

^a Before lime treatment.

The Engineer samples aggregate for acceptance testing and tests for the following additional quality characteristics:

HMA Acceptance

Quality Characteristic	Test Method	Specification	Sampling Location
Los Angeles Rattler (% max loss at 500 rev)	CT 211	25	Stockpile ^a
Fine durability index (D _f) (min)	CT 229	50	Stockpile ^a

Note:

^a Before lime treatment.

MATERIALS

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA Type A must be PG64-28TR.

Tack Coat

For tack coat, use CRS2, CQS1, asphalt binder, or PMCRS2 asphaltic emulsion.

Aggregate

The aggregate for HMA Type A must comply with the 1/2-inch grading.

Before adding asphalt binder, aggregate must comply with the following additional quality characteristics:

Aggregate Quality		
Quality Characteristic	Test Method	Specification
Los Angeles Rattler (% max loss at 500 rev)	CT 211	25
Fine durability index (DI) (min)	CT 229	50

Antistrip Treatment

Treat aggregate with lime slurry under "Lime Treatment of Hot Mix Asphalt Aggregates - Slurry Method." For the mix design, use Lab Procedure LP-7.

CONSTRUCTION

Material Transfer Vehicle

When the atmospheric temperature during paving is below 70 °F or when the time from discharge to truck at the HMA plant until transfer to the paver's hopper is 90 minutes or greater, use a material transfer vehicle (MTV). The MTV must:

1. Receive HMA directly from the truck without depositing the HMA on the roadway surface
2. Transfer HMA directly into the paver's receiving hopper or feed system
3. Remix the HMA, with augurs, before loading the paver
4. Have sufficient capacity to prevent stopping the paver

Rumble Strips

Construct shoulder rumble strips in the top layer of new HMA surfacing.

Vertical Joints

Place HMA on adjacent traveled way lanes so that at the end of each work shift, the distance between the ends of HMA layers on adjacent lanes is between 5 feet and 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another approved bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

Data Cores

Take data cores that include the completed HMA pavement, underlying base, and subbase material. Protect data cores and surrounding pavement from damage.

Take 4-inch or 6-inch diameter data cores:

1. At the beginning, end, and every 1/2 mile within the paving limits of each route on the project
2. After all paving is complete
3. From the center of the specified lane

On a 2-lane roadway, take data cores from either lane. On a 4-lane roadway, take data cores from each direction in the outermost lane. On a roadway with more than 4 lanes, take data cores from the median lane and the outermost lane in each direction.

Each core must include the stabilized materials encountered. You may choose not to recover unstabilized material but you must identify the material. Unstabilized material includes:

1. Granular material
2. Crumbled or cracked stabilized material
3. Sandy or clayey soil

PAYMENT

The contract lump sum price paid for data core includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in data coring, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.26 ASPHALTS

GENERAL

Summary

Comply with Section 92, "Asphalts," of the Standard Specifications.

MATERIALS

Grade

Performance graded tire rubber modified asphalt binder (PG Tire Rubber) is:

Performance Graded Tire Rubber Modified Asphalt Binder ^a

Property	AASHTO Test Method	Grade	
		PG 64-28 TR ^b	PG 76-22 TR ^b
Original Binder			
Flash Point, Minimum °C	T 48	230	230
Solubility, Minimum % ^c	T 44 ^d	97.5	97.5 ^e
Viscosity at 135°C, ^f Maximum, Pa·s	T 316	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	64 1.00	76 1.00
RTFO Test , Mass Loss, Maximum, %	T 240	1.00	1.00
RTFO Test Aged Binder			
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	64 2.20	76 2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum (delta), %	T 315	Note g 80	Note g 80
Elastic Recovery ^h , Test Temp., °C Minimum recovery, %	T 301	25 75	25 65
PAV ⁱ Aging, Temperature, °C	R 28	100	110
RTFO Test and PAV Aged Binder			
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*sin(delta), kPa	T 315	22 5000	31 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T 313	-18 300 0.300	-12 300 0.300

Notes:

- Do not modify binder using polyphosphoric acid modification. Report type and dosage if any acid modification other than polyphosphoric acid modification is used.
- Supplier is required to certify 10% minimum tire rubber modifier in binder.
- The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- The Department allows ASTM D 5546 instead of AASHTO T 44
- For hot applied chip seal applications the solubility will be a minimum of 93% and a binder profile is required for supplier who is not a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 kPa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
- Tests without a force ductility clamp may be performed.
- "PAV" means Pressurized Aging Vessel.

BID ITEM LIST
02-2E6504

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	074016	CONSTRUCTION SITE MANAGEMENT	LS	LUMP SUM	LUMP SUM	
2	074017	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LUMP SUM	LUMP SUM	
3	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
4	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
5	128650	PORTABLE CHANGEABLE MESSAGE SIGN	LS	LUMP SUM	LUMP SUM	
6	150715	REMOVE THERMOPLASTIC PAVEMENT MARKING	SQFT	2,470		
7	151572	RECONSTRUCT METAL BEAM GUARD RAILING	LF	2,460		
8	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	30,500		
9	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
10	198007	IMPORTED MATERIAL (SHOULDER BACKING)	TON	3,440		
11	390136	MINOR HOT MIX ASPHALT	TON	600		
12	390139	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED HIGH BINDER)	TON	17,100		
13	394050	RUMBLE STRIP	STA	1,920		
14	394060	DATA CORE	LS	LUMP SUM	LUMP SUM	
15	394073	PLACE HOT MIX ASPHALT DIKE (TYPE A)	LF	15,800		
16	394076	PLACE HOT MIX ASPHALT DIKE (TYPE E)	LF	22,200		
17	394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	2,260		
18	397005	TACK COAT	TON	240		
19	839576	END CAP (TYPE A)	EA	2		
20	839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	1		

BID ITEM LIST**02-2E6504**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21	840515	THERMOPLASTIC PAVEMENT MARKING	SQFT	2,520		
22	840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	LF	408,000		
23	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	3,150		
24	850122	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)	EA	3,250		
25	860090	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	LUMP SUM	LUMP SUM	
26	860930	TRAFFIC MONITORING STATION	LS	LUMP SUM	LUMP SUM	
27	390131	HOT MIX ASPHALT	TON	26,200		

TOTAL BID:

\$ _____